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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,198	10/26/2000	Parviz Tayebati	CORE-61	4834
7590 10/16/2003			EXAMINER	
Pandiscio & Pandiscio 470 Totten Pond Road Waltham, MA 02451-1914			LANDAU, MATTHEW C	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/697,198

Applicant(s)

TAYEBATI, PARVIZ

Examiner

Matthew Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claims 3 and 4, it is unclear if the tunable laser can be is optically pumped or electrically pumped. Claim 1 recites a voltage applied to electrodes, meaning the tunable laser is pumped by electrical means. Claim 3 recites the tunable laser is optically pumped. Does Applicant intend to claim a laser that is both optically and electrically pumped?

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munks et al. (US Pat. 6,289,028, hereinafter Munks) in view of Kobayashi.

In regards to claims 1 and 5, Figure 1 of Munks discloses a wavelength stabilizing apparatus comprising: a tunable laser 12; a wavelength measuring module 18 for detecting a difference between an instantaneous wavelength of the laser 12 and the target wavelength (column 6, lines 4-7), and for generating an output signal 22 which is representative of the difference; and a control unit 24 for receiving said output signal 22 from said wavelength measuring module 18 and for modifying the electrooptical performance of a gain medium (by changing the excitation current supplied to the laser) of the tunable laser in accordance with said output signal 22 so as to lock the tunable laser 12 to its target frequency (see column 6, lines 7-15). Munks discloses an excitation current is applied to the laser so that the laser wavelength can be controlled for tuning (column 6, lines 12-17). Therefore, it is considered a tuning voltage is applied to the laser. The target wavelength (set-point wavelength) must be selected from a range, and that range must correspond to the voltage applied to the laser. Munks does not explicitly disclose the laser having a top and bottom electrode, but does disclose a DBR type laser can be used (column 6, lines 32-35). Figure 1 of Kobayashi discloses a DBR type laser with top and bottom electrodes (160 and 170). In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Munks by including a top and bottom electrode for the purpose of providing a means to supply current to the active medium in order to stimulate laser emission.

In regards to claim 2, Figure 1 of Munks discloses a wavelength stabilizing apparatus wherein the tunable laser 12 is an electrically pumped laser, and further wherein said control unit 24 is adapted to adjust an injection current applied to the gain medium of the tunable laser so as

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to modify the electrooptical performance of the gain medium of the tunable laser (see column 6, lines 13-15).

In regards to claim 6, Munks discloses a method for stabilizing the wavelength of a tunable laser 12 to a target frequency, said method comprising: detecting a difference between an instantaneous wavelength of the laser and a target wavelength, and generating an output signal 22 which is representative of the difference; and modifying electrooptical performance of a gain medium of the tunable laser in accordance with said output signal so as to lock the tunable laser to its target frequency (see column 6, lines 4-15). Munks discloses an excitation current is applied to the laser so that the laser wavelength can be controlled for tuning (column 6, lines 12-17). Therefore, it is considered a tuning voltage is applied to the laser. The target wavelength (set-point wavelength) must be selected from a range, and that range must correspond to the voltage applied to the laser. Munks does not explicitly disclose the laser having a top and bottom electrode, but does disclose a DBR type laser can be used (column 6, lines 32-35). Figure 1 of Kobayashi discloses a DBR type laser with top and bottom electrodes (160 and 170). In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Munks by including a top and bottom electrode for the purpose of providing a means to supply current to the active medium in order to stimulate laser emission.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munks in view of Kobayashi and in further view of Mooradian and Camparo et al.

In regards to claim 3, a further difference between Munks and the claimed invention is the tunable laser being optically pumped, wherein the control unit is adapted to adjust the

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intensity of the pump laser applied to the gain medium of the tunable laser. Figure 11 of Mooradian discloses an optically pumped laser 30. Figure 1 of Camparo et al. discloses a pump laser 12, wherein a controller 36 supplies a control signal to the pump laser 12 to adjust the intensity of the pump laser. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to further modify the invention of Munks by using an optically pumped tunable laser, wherein the control unit is adapted to adjust the intensity of the pump laser applied to the laser's gain medium. The ordinary artisan would have been motivated to modify Munks in the manner described above for the purpose of electrically isolating the tunable laser from the control circuit.

In regards to claim 4, a further difference between Munks and the claimed invention is an electrically pumped pump laser wherein the control unit is adapted to adjust an injection current applied to a gain medium of the pump laser. Figure 11 of Mooradian discloses an electrically pumped pump laser 38. Figure 1 of Camparo et al. discloses a pump laser 12, wherein a controller 36 supplies a control signal to the pump laser 12 to adjust the injection current applied to the gain medium of the pump laser. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to further modify the invention of Munks by incorporating an electrically pumped pump laser with the control unit adjusting the injection current of the pump laser. The ordinary artisan would have been motivated to modify Munks in the manner described above for the purpose of providing a simple pump laser that is easily controlled.

***Response to Arguments***

Applicant's arguments filed July 28, 2003 have been fully considered but they are not persuasive.

In response to Applicant's arguments that "Munks et al. does not disclose a wavelength measuring module for detecting the difference between an instantaneous wavelength of the laser and the target wavelength...", Munks clearly discloses, as indicated in the above rejection, a laser module that generates an error signal based upon the difference between an instantaneous wavelength and a set-point (target) wavelength. Contrary to Applicant's statement that the laser of Munks is a fixed wavelength laser, it is clearly disclosed in the reference that the laser wavelength can be controlled, such as for tuning (column 6, lines 15 and 16). Therefore, the set-point (target) wavelength must correspond in some way to the tuning voltage.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (703) 305-4396.

The examiner can normally be reached on 8:00 AM-4: 30 PM.

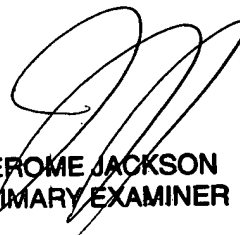
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Matthew C. Landau

Examiner

October 6, 2003

  
JEROME JACKSON  
PRIMARY EXAMINER